

Abstract

The field effect transistor comprises a source and a drain connected by a channel controlled by a gate electrode separated from the channel by a gate insulator. The channel is formed by a diamond-like carbon layer. The method for making the transistor successively comprises deposition of a diamond-like carbon layer on a substrate, deposition of a gate insulating layer and deposition of at least one conducting layer. The conducting layer is etched to form the gate electrode. Then an insulating material is deposited on the flanks of the gate electrode to form a lateral insulator. Then the gate insulating layer is etched and the diamond-like carbon layer is etched so as to delineate the channel. Then a semi-conducting material designed to form the source and a semi-conducting material designed to form the drain are deposited on each side of the channel.